

REPLACEMENT ABSTRACT

ABSTRACT OF THE DISCLOSURE

A system and method for estimating the SNR in a sonar environment and for determining the effect of the estimated SNR on sonar ranging accuracy. The system includes a sensor, a transmitter, a receiver, a plurality of band-pass filters, a cross correlator, and a data analyzer. The transmitter transmits a first signal having a predetermined frequency range through a transmission medium. The sensor generates a second signal corresponding to an echo signal reflected from an object. The first and second signals are provided to the band-pass filters, each operative to pass a respective sub-band of frequencies. The filters provide filtered versions of the first and second signals to the cross correlator, which performs cross correlation operations on the filtered signals. A data analyzer analyzes the cross correlator output data to determine the variability of cross correlation peaks within each frequency sub-band, thereby allowing more accurate SNR estimations in noisy environments.

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